

ABSTRACT

Pyridine and its analogues exhibit an array of biological activities ranging from antimicrobial, antihypertensive, antitumor and anticonvulsant.

The above observations prompted us to synthesize some new pyridine analogues with various substitutions at 4-position, along with the 1, 4-dihydropyridine ring in the same framework for synergistic action. We here in report the synthesis and the antimicrobial screening of the new title compounds. Ethyl aceto acetate and different substituted aromatic and or hetero aldehydes were used as a starting material, to get different Diethyl 1, 4-dihydro-2, 6-dimethyl-4-substituted pyridine-3, 5-dicarboxylate derivatives. The compounds were characterized by MP, TLC, UV, IR, ^1H NMR and Mass spectra.

The synthesized compounds were subjected to antimicrobial screening at a concentration of $50\mu\text{g/ml}$ and $100\mu\text{g/ml}$ against two Gm+ve and Gm-ve bacteria each. All the samples were screened by disc diffusion technique using Ciprofloxacin as standard, among which nitrophenyl & 2-furyl substituted compounds (SRS-05 & SRS-10) exhibited good antimicrobial activity.

Key words: 1, 4-dihydropyridine derivatives, antimicrobial activity, disc diffusion technique.